allows multiple, concurrent Teleservices to be active at the same time.

TTS Sequence Number

Begins at zero, increments one value per segment, within a segment stream (TTS Transaction ID).

TTS Message Length

Total length in bytes of the TTS Message (the Teleservice Message after the compression service **56** and encryption service **60** have been employed. If neither if these services is used, the TTS Message Length is the same as the Teleservice Message Length)

Teleservice HLPI

HLPI associated with the Teleservice

Compression

Indicates whether the compression service **56** was utilized on the Teleservice Message, and the compression algorithm employed.

00: No Compression

01: Compression algorithm=XXXX

Encryption

Indicates whether the encryption service **60** was utilized on the Teleservice Message, and the encryption algorithm employed.

00: no encryption

01: Encryption algorithm XXXX

Teleservice Message Length

Total length of the Teleservice message in plain text (i.e., at the TTS SAP **55** before the application of compression and encryption operations).

Number of Segments

The number of segments necessary to transmit the entire TTS Message. In IS-136, this is the number of R-DATA messages required to convey the, possibly compressed and encrypted, TTS Message **52**.

Acknowledgement Window

How often the receiving TTS receiving entity should return positive receipt confirmation via a TTS Response Message. The receiving entity also responds at the last segment, and whenever an inter-segment timer (IST) **64***a* expires.

00: Respond every 4 segments

01: Respond every 8 segments

10: Respond every 16 segments

CRC Status

0: CRC not calculated/provided for Teleservice Message 52

1: CRC calculated/provided for Teleservice Message. The CRC Calculation is performed prior to any compression or encryption at the TTS layer.

Segment Remaining Length (N)

Length in bytes of the remainder of the segment data.

Segment Data

The N bytes of segment data conveyed in this TTS message segment.

CRC

The 16 bit CRC calculated over the original Teleservice Message.

TTS Status

Reports the current status of the TTS Transaction ID stream (in hexadecimal notation).

00: Status OK, operation continuing

01: Inter-Segment Timeout

02: TTS Transaction ID message stream aborted

03: CRC Error

04: Compression Selection not Supported

05: Encryption Selection not Supported

06: TTS Protocol Version not Supported

07: TTS Message Length Error

08: Teleservice Message Length Error

09: Teleservice Message Too Long (indicates insufficient storage for this message)

0A: Status OK, Teleservice Message Correctly Received

TTS Acknowledgement Map

A bitmap showing the received status of the TTS Segments associated with a given TTS Message stream. The status of each segment is given, with segment zero present in the LSB of byte one and the status of segment **255** given in the MSB of byte **32**. Only the number of bytes necessary to convey status for the Number of Segments are sent.

0: Segment(i) not received

1: Segment(i) received

In "accordance with the foregoing it can be appreciated that this aspect of the invention enables a Teleservices message **52** to be" encapsulated or partitioned into a plurality of smaller R-DATA messages, each having a maximum size equal to or less than the size supported by the air interface services **66** and **68** and the network service **70**. The partitioned Teleservices message is then transmitted to a destination in accordance with the foregoing messaging protocol, and subsequently reassembled into the original Teleservices message. Between segments (continuation or end segments) the inter-segment timer (IST) **64***a* maintained by the destination assembly service **64** is used to insure the continuity of segment transmissions. The use of data compression provides for an efficient use of bandwidth, while the use of encryption provides for message privacy.

One significant advantage of this invention is that it allows current and future Teleservices to be defined independently of the air interface technology, as well as independently of any presumptions concerning the service provided by the network layer.

In practice, there is some upper limit on the size of a given Teleservice message. In fact, this limit may be variable, as it is imposed through the Sequence Numbers that the TTS assigns for each Air Interface message that is dispatched.

This implies, by example, that a message sequence sent through a BMI **32** supporting 127 bytes per R-DATA has a larger theoretical message size than one supported by a BMI that limits the R-DATA to 31 bytes. This variance is controlled by defining a maximum size Teleservice message, and insuring that the message Sequence Number range is sufficient to convey that size message through the smallest valid R-DATA pipeline.

FIG. **6** depicts various potential sizing limits for the TTS. The exemplary spreadsheet in FIG. **6** provides information that may assist in determining the best sizing for messages at the TTS layer. The message size limit needs to accommodate the largest supported user message carried through a Teleservice (for example, the SMS message), the Teleservice header information, the R-DATA header information, and the TTS and R-DATA headers.

For example, and assuming a user message of 512 bytes, 20 bytes of Teleservice Header data, and 20 bytes of TTS header data provides for a 552 byte TTS message. If an additional 8 bytes of R-DATA and TTS header per R-DATA message is included, the number of R-DATA messages required to convey this user message is calculated at the various R-DATA Message Length values. Once the maximum User Data size is determined, the number of bits necessary for the TTS Sequence Number is determined from